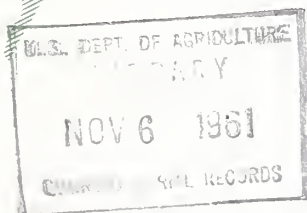


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

NORTHEASTERN FOREST PEST REPORTER

United States Department of Agriculture • Forest Service



No. 3

October 16, 1961

With this issue of the NORTHEASTERN FOREST PEST REPORTER, the New Haven Laboratory of the Northeastern Station ceases its function as judge, jury, and clearing-house of information and passes the gavel to the Forest Pest Control Section, Region 7, Forest Service. As stated in recent memoranda from H. K. Pyles, Regional Forester, and R. W. Marquis, Director of the Northeastern Station, all pest control activities, including preparation and distribution of the PEST REPORTER, are now the responsibility of the R-7 group. It is not intended that this Laboratory sever all relations with field surveys, pilot projects, and control operations but rather that we render technical advice and guidance as needed. With greater concentration on research, more and better information on detecting, evaluating, and suppressing insect and disease depredations can be provided. There is no clear line between research and pest control; each is a vital part of what we hope will be a closely integrated program aimed at reducing the tremendous losses in quality and quantity of timber production and minimizing the harmful side effects to recreation, wildlife habitats, watersheds, and other forest values caused by destructive insects and diseases.

Our sincere thanks to all of you who have cooperated so faithfully and well to make this PEST REPORTER worthwhile. Keep it up.

Bill Waters, Paul Mook

Effective October 2, John K. Kroeber was appointed Chief of the Branch of Forest Pest Control, Region 7. Mr. Kroeber has had several years of experience in Blister Rust Control and as an Entomologist in Forest Pest Control, Region 9.

W. Laurier (Larry) Freeman, Jr. assumed the position of Entomologist in the Regional Office, September 1, 1961. Larry worked for the Maine Forest Service for two years, the Northeastern Forest Experiment Station for one summer, and for the last six years has taught entomology while working on advanced degrees at Cornell University.

SPRUCE BUDWORM (Choristoneura fumiferana). Egg mass survey collections in the Squapan Lake area (southwest of Presque Isle, Maine) indicate heavy egg mass deposition on fir in this general area. In addition, heavy defoliation of fir in the same area was noted earlier this year. Parasitism of budworm larvae was not high enough to effect natural control of the budworm. An isolated heavy infestation at Bancroft, 30 miles south of Houlton, was detected late in the season, but the total size of this infestation has not been as yet determined. A decision on possible control of the budworm next year will be based on a complete analysis later this fall of egg mass survey data and the present condition of trees in the Squapan Lake area.

WHITE-PINE WEEVIL (Pissodes strobi). Generally abundant as usual. Moderate damage was noted in a plantation on Pretty Boy Watershed (northwest Baltimore County, Maryland). It was also reported damaging scattered Norway spruce in western Maryland. In New York, near Cortland, damage to white spruce and Douglas-fir plantings have been caused by this pest. It was also noted as being active in red pine plantations in Greene and Schenectady Counties, New York. Scotch pine in a plantation in State Reforestation Area Tompkins #3 has also been heavily damaged by the white-pine weevil.

PINE LEAF APHID (Pineus pinifoliae). A local heavy infestation of pine leaf aphid at Fish Creek Pond Public Campsite (New York) was sprayed with nicotine sulfate. Control results were not reported.

BARK BEETLES The southern pine beetle (Dendroctonus frontalis) is still active on the Eastern Shore of Virginia. No severe buildup is reported although some new small infestations have been observed. Ips grandicollis killed a group of shortleaf and white pines in Chatham County, Virginia. Ips spp. are reported in pine logging slash and in hurricane blowdowns in eastern Virginia; however, no live trees are involved. Loblolly pine (singles and small groups) have been killed on other areas in eastern Virginia. Several small infestations are reported in Virginia pine in north-central Virginia and scattered infestations have been observed in the south-central portion of the same State. Scattered infestations of turpentine beetle (Dendroctonus terebrans) have also been noted in eastern and south-central Virginia.

RED-HEADED PINE SAWFLY (Neodiprion lecontei). Infestations were scattered throughout New York in red pine plantations, and some local control work was done. New infestations in Franklin County were light, but those in Lewis County were moderate to heavy, with virus causing considerable mortality. New infestations in Warren County caused very heavy damage. In Maryland, infestations of the sawfly were light. Noticeable feeding was observed in two white and Scotch pine plantations. The sawfly in Virginia increased in numbers and is considered a pine plantation pest that can be serious, particularly since it has two or three generations each year. In Essex County, severe defoliation occurred in a 120-acre loblolly pine plantation two years old. A few central and south-central (Piedmont) areas showed defoliation with some killing of small groups of loblolly, pitch, and Virginia pines. In West Virginia infestation was relatively heavy in Webster, Braxton, Nicholas, and Tyler Counties on red and Scotch pine. In Kentucky, there were several 15-to 30-acre infestations in the south-central and western parts of the State.

LARCH SAWFLY (Pristiphora erichsonii). The Caratunk area of Maine (north of Moosehead Lake) had abundant populations, as did young trees in Hancock County. New York's Tug Hill area has a 35-acre larch plantation that was infested, of which 10 acres were heavily defoliated this year. Scattered dead trees were found in the portions defoliated in 1960. In the Saranac and Lowville areas, larch was generally infested with populations light to medium -- slightly lower levels than in 1960.

YELLOW-HEADED SPRUCE SAWFLY (Pikonema alaskensis). A small outbreak is reported in a white spruce plantation at Crown Point, New York.

VIRGINIA PINE SAWFLY (Neodiprion pratti pratti). Maryland, Virginia, and North Carolina have been experiencing an outbreak for the last few years. On Virginia, pitch, and shortleaf pine defoliation was still extensive this year, but it was less severe than in 1960. Egg surveys in the three states should give an indication of whether or not the outbreak is finally declining. The egg surveys of 1960 indicated that 1961 defoliation would be severe. Yet protracted cool, wet weather decimated larval populations in many places early this year by interfering with development as well as permitting a high incidence of disease. Even where larval populations remained high, interference with larval development was so great that defoliation was not in proportion to the numbers of larvae.

Natural control forces operating on the sawfly were documented by a study this year in Virginia of the pupal stage. The pupae studied were in stands that were moderately to heavily defoliated in 1960. Nearly 90 percent reduction of the pupae was effected by biological agents that included mites, ants, and parasites.

MISCELLANEOUS INSECTS ON CONIFERS Damage to spruce in the Lowville district of New York is being caused by the spruce needle miner (Epinotia nanana). The evergreen bagworm (Thyridopteryx ephemeraeformis) is reported common on several conifers in scattered areas of Maryland, Virginia, and West Virginia. The pine needle scale (Phenacaspis pinifoliae) is abundant on white spruce, Scotch pine, and mugho pine in the Saratoga Springs area of New York. A light infestation of the pine tortoise scale (Toumeyella numismaticum) is reported in a red pine plantation near Cortland, New York. Minor damage in two loblolly pine plantations in north-central Virginia by the pales weevil (Hylobius pales) has been noted. In Rhode Island (Scituate Watershed area) damage by this pest to 3-year-old white spruce has amounted to \$500. on private land. Reports of damage to white and Scotch pine by the pine spittle bug (Aphrophora parallela) in New York is noted. One particularly heavy infestation on Scotch pine exists in a State Reforestation area near Cortland, New York.

Damage by the pine root collar weevil (Hylobius radicis) is generally increasing in New York. Specifically, some damage to Scotch and red pine plantations in Warren County (New York) are reported. A light infestation of the pine tube moth (Argyrotaenia pinatubana) has been noted in one white pine plantation in Baltimore County, Maryland. Loblolly pine in nursery beds at the New Kent Nursery, Providence Forge, Virginia have been damaged by thrips (Gnophothrips piniphilus). The European pine shoot moth (Rhyacionia buoliana) is reported common on red pine in the four counties of the northern Panhandle of West Virginia. The Nantucket pine tip moth (Rhyacionia frustrana) is a continuing pest on young loblolly pine in Maryland, Virginia, and West Virginia. A shoot moth (Rhyacionia rigidana) has been identified as the cause of damage in a red pine plantation in Wareham, Mass. (see July 12, 1961 PEST REPORTER). The pitch-eating weevil (Pachylobius picivorus) was damaging to pine reproduction on cutover lands in Pocahontas County, West Virginia.

GYPSY MOTH (Porthetria dispar). A report received recently from Harry L. Smith, Regional Supervisor, Plant Pest Control Division, USDA, Moorestown, N. J. reads as follows: "Control treatments for the gypsy moth under the cooperative Federal-State program during the spring of 1961 were applied in New York and Vermont. No treatments were necessary in either New Jersey or Pennsylvania as a result of negative surveys. In New York, DDT and Sevin were applied at 19 scattered locations totalling 1,003 acres to eliminate all known infestations outside the regulated area and in the suppressive area. In the upper Champlain Valley of Vermont, treatments were applied to eliminate the northernmost infestations in Grand Isle and Franklin Counties. A new

oil-base formulation of Sevin was used on 30,756 acres involving dairy and forage lands, and DDT was used to treat 600 acres comprising the city of St. Albans. In addition, state agencies treated more than 129,000 acres within the generally infested area to suppress populations, as follows: New York, 54,250; Connecticut, 52,000; Rhode Island, 19,054; Massachusetts 1,800; Maine, 1,840; and, Vermont 153.

"Surveys in 1961 show a continuing buildup and spread of the moth in scattered locations in several states. Aerial surveys disclosed more extensive areas of defoliation in most of the New England States and in New York than last year. Acreage defoliated in 1961 will exceed last year's total of 48,722 acres. In the 1961 trapping program more than 42,000 traps were used to systematically survey territory in northern New Jersey, northeastern Pennsylvania, central New York and northern New England, adjacent to the generally infested area; and, in a selective survey principally in Delaware, Maryland, Virginia, and West Virginia. Although data on results are incomplete at this time, moths have been caught at scattered locations in New Jersey and Pennsylvania in close proximity to the New York State line. Outside the regulated area in New York a few moths, mostly singles, have been trapped in Broome, Herkimer, Hamilton, Franklin, and Jefferson Counties. In the northern section of the suppressive area, only a few scattered traps attracted moths, while in southern sections trap recoveries were more numerous, principally in Sullivan and Westchester Counties. Outside the regulated area in New England, moths were caught in 18 towns in Vermont; 2 towns in New Hampshire; and 1 town in Maine."

A further amplification of this report from Massachusetts lists approximately 3,000 acres of visible defoliation in 1961 and a much larger area of defoliation expected in 1962 possibly requiring control measures. Total acreage of visible gypsy moth defoliation in Maine will approach 20,000 acres, and in Vermont 8,000 acres outside the control area. Preliminary tests using Bacillus thuringiensis in several combinations with a natural polyhedral virus and several stickers to control the gypsy moth in New York and Massachusetts were undertaken. The final results have not been evaluated, but it is highly probable that these biotic agents will find a place in the gypsy moth control program.

OAK LEAF ROLLER (Argyrotoxa semipurpurana). Several local heavy infestations of this insect were reported from the four western counties in Massachusetts. Cankerworms were also found associated with it on several species of oak. This leaf roller is apparently increasing in severity in the aforementioned area of Massachusetts and also in several adjacent areas of New York (see PEST REPORTER, July 12, 1961).

BEECH SCALE (Cryptococcus fagi). A 13,000-acre private park in Saratoga County, New York is heavily infested with the scale; Nectria has not been observed. A few ladybird beetle larvae were seen feeding on the scale. Schoharie, Delaware, Western Cortland, and Saratoga Counties, New York, report very heavy infestations. Considerable beech mortality of unknown cause has also been observed in the above counties. New infestations were found in Warren, Washington, and Saratoga Counties of the same State.

New Hampshire reports light beech scale infestations on the eastern slopes and heavy infestations on the western slopes of the White Mountains. Nectria infection, however, is more common on the eastern slopes where another scale insect, Xylococcus betulae appears to be quite common. This scale insect has also been noted on yellow and paper birch. It is probable that this insect is another contributing factor to this already complex insect-disease relationship. The ladybird beetle (Chilocorus stigma) is reported abundant throughout the White Mountains.

FOREST TENT CATERPILLAR (Malacosoma disstria). General infestations apparently increasing in western Massachusetts; however, insect populations in Pennsylvania, West Virginia, and northern Maryland are apparently decreasing.

MISCELLANEOUS INSECTS ON HARDWOODS The fall cankerworm (Alsophila pomataria) is apparently building up in conjunction with the gypsy moth in Massachusetts and New York. Damage to several hardwoods in western Virginia and southern Grant and northern Pendleton Counties, West Virginia, by the periodical cicada (Magicicada septendecim) has been quite prominent. In the Lowville area of New York, black walnut is being defoliated by the walnut caterpillar (Datana integerrima). A general infestation of oystershell scale (Lepidosaphes ulmi) on beech has been reported in Ulster County, New York. An infestation of the oak skeletonizer (probably Bucculatrix ainsliella) is decreasing at Dryden (Tompkins County, New York). Up to 100 percent defoliation of poplar by the satin moth (Stilpnotia salicis) is reported from Champlain, New York. Infestations of the orange-striped oakworm (Anisota senatoria) are increasing on oak in West Virginia and in central and southern Rhode Island. The locust leaf miner (Chalepus dorsalis) is reported common on black locust in West Virginia and western Pennsylvania. Oak defoliation by the Asiatic oak weevil (Cyrtepidomus castaneus) is general throughout West Virginia and of light intensity in central Pennsylvania. Heavy infestations of chestnut oak by the golden oak scale (Asterolecanium variolosum) have apparently killed some of these trees in Pendleton County, West Virginia. Woolly aphids (unidentified) have caused extensive leaf curl of white oak over a five-square-mile area of Clarke County, Virginia. The fall webworm (Hyphantria cunea) has caused complete defoliation of some hardwoods in central and southern Maine recently. Birch catkins and cones throughout New Hampshire are heavily infested by a weevil, Apion walshii and several unidentified caterpillars, with little or no birch seed production as a result.

OTHER PESTS Another interesting report on the condition of a plantation on the Hanover Watershed, Yak County, Pennsylvania, reads as follows: "Each winter millions of starlings, grackles, and cowbirds gather and roost in the plantation area. During the winter of 1959, it was estimated that approximately seven million birds were roosting in the six or seven acres which you see here. Death of the trees was caused by an accumulation of bird droppings which reached a depth of one inch on the ground. Accumulation of birds on various portions of the watershed was first noticed about 1953. By 1955 it had reached such proportions that the water company became concerned about contamination of their water supply. The Fish and Wildlife Service was called in to keep a check on the situation. Each year the number of birds using the roosting area increased. During the three winters 1957-58 through 1959-60 it was estimated that approximately 18 acres of plantation were destroyed by this accumulation of birds. No tree losses were noted during the winter of 1960-61."

FOREST DISEASES

Since the last issue of the PEST REPORTER the disease situation has changed. Various dieback diseases have become more conspicuous with an intensification of dieback symptoms, including yellowing leaves, premature leaf fall, etc. As an example, leaf scorch symptoms of declining maples became much more prominent as hot, dry weather occurred. Diseases, late in developing, became more evident as the season advanced, such as leaf blotch of horsechestnut, X-disease of wild cherry, and anthracnose or LEAF BLOTCH of hickory. Many fruiting bodies of the wood-rotting fungi enlarge and are more conspicuous as the season advances. For example, Steccherinum septentrionale on sugar maple attained its fruiting peak during the last half of August.

In early and late fall many fungi reach their fruiting heights. Some of these may be seasonal effects. Others, a response to early or late fall rains following summer droughts. Or, as night temperatures become lower, dew periods are heavier and persist longer. The heavy fruiting of fleshy fungi on the forest floor during the last half of August is a response to the rainy period starting August 20th following the dry spell from mid-July to mid-August. The lack of severe drought this year has

resulted in a low incidence of various powdery mildews -- a group of fungi favored by hot, dry weather. Fomes annosus is another fungus which seems to fruit more luxuriously in late season, particularly when nights become cooler and when fall rains follow late summer droughts. Such fruiting was observed during late August, and if plentiful rains occur this fall, Fomes annosus fruiting should be quite conspicuous.

LEAF AND SHOOT DISEASES Moist conditions of early summer favored bacterial leaf diseases, according to reports from Massachusetts. Bacterial shothole (Xanthomonas pruni) was common on peach and plum; specimens of Phytophthora aceris on sugar maple were diagnosed; and an unidentified bacterial leaf spot of tulip trees was seen repeatedly. Since Liriodendron is not common in eastern Massachusetts, Dr. Robert E. Inman of the Waltham Shade Tree Laboratory would appreciate any information other contributors might provide on this latter disease. Fungus-caused leaf spots were not too noticeable. Reports mention Phyllosticta leaf spot on maple, Entomosporium on hawthorn, and Pestalotia and Monochaetia on Rhododendron.

Some of the leaf and shoot blights were quite noticeable this year. Willow shoot blight is widespread throughout New York and the New England States. Spots of severe infection are present in some localities. Leaf and shoot blight of poplar is common in New York State, but its severity is variable. Recent Canadian work indicates this disease is caused by Venturia populina which has an imperfect stage known as Pollaccia elegans. This disease has commonly been reported under the names Fusicladium radiosum, or as Napicladium tremulae. Spray experiments showed that hawthorn leaf blight (Fabraea maculata), reported in previous issues of the REPORTER, can be controlled in nurseries with two or three sprays of Acti-dione, Cyprex, or Zineb. A single spray of Acti-dione or Cyprex applied in the middle of July prevented defoliation; unsprayed trees were almost completely defoliated by September 1. Two late developing leaf blotches became quite evident by late August; one is that of horsechestnut, caused by Guignardia aesculi. It is widely scattered with severely infected spots in parts of Pennsylvania, west-central and southern New York, most of the New England States, and West Virginia. It was reported as heavy in West Virginia. Another is hickory leaf blight, presumably caused by Gnomonia caryae. This is also widely distributed throughout New York and Pennsylvania, and in some areas late season defoliation has resulted.

Anthracnoses did not reach the dimensions of last year's infection but were generally seen throughout Massachusetts. Norway and sugar maples, hickory, and white ash were infected, with emphasis on the latter. Other anthracnose hosts reported include beech, oak, basswood, and elm. The anthracnoses generally are widely distributed. Reports from Maryland and Virginia also speak of anthracnose of sycamore and oak as present but lighter than usual. West Virginia also reported anthracnose as "light this year." In Pennsylvania anthracnose of black walnut, combined with insect damage caused general early defoliation.

As mentioned in previous reports, shoot blight of hard pines (Diplodia pinea) has increased in severity during the past several years. It is especially severe on Austrian pine, particularly in parts of the Delaware, Hudson, and Susquehanna River Valleys. Reports of the disease were received from Pennsylvania, New Jersey, New York, Connecticut, and Massachusetts.

Specimens of balsam fir grown for Christmas trees and subject to leaf cast and tip blight were submitted by Dr. Adams of Vermont. The fungus responsible was determined as Rehmiellopsis balsameae. Other leaf casts reported were Rhabdocline and Adelopus on Douglas-fir. They have become quite evident, particularly since the dry weather in late July and early August. Summer appearances of these diseases vary greatly. Some rather heavily infected trees remain green and healthy looking, while others considered lightly infected become burnt-red or dull brown in color. Lastly, Lophodermium sp. on pine was reported from Massachusetts.

RUSTS Blister rust of white pine.--In some sections of New York State, Ribes eradication work was discontinued two weeks earlier than usual due to defoliation from very heavy blister rust infection and drought. In spite of the heavy Ribes infection, 1961 does not appear to be serious from a pine infection viewpoint, as climatic conditions were not favorable for spore dissemination. A report from West Virginia says white pine blister rust was about as usual.

Other rusts.--Woodgate rust of jack pine was reported from northeastern New York State. Confirmation of the rust was by Dr. Welch of Cornell. Red pine needle rust (Coleosporium asterina) was noted rather extensively in Wood and Wirt Counties of West Virginia, while cedar-apple rust was heavy on cedars in Pendleton, Grant, and Hardy Counties.

WILTS Most wilt diseases reported earlier are still very evident. For example, Dutch elm disease-killed and dying trees, with some severe pockets of infection, may be observed throughout the Northeast. However, a tabulated report from the Shade Tree Laboratories in Massachusetts indicates a reduction in the number of cases confirmed in 1961 when compared to 1960, and that 1960 had fewer confirmations than 1959. DED was reported from all sections of Maryland. In West Virginia DED conditions were about normal with dying trees noted throughout the eastern counties and the disease scattered in the more western counties. Verticillium wilt seems to be about the same as for the past year. Most reports this season came from Massachusetts, Connecticut, Maryland, and West Virginia. Maryland reported its presence in nursery stock from Harford County in the northeastern part of the State.

Oak wilt (Ceratocystis fagacearum). In Virginia 57 positive oak wilt infected spots were treated this summer as compared to 61 spots last year. The area of infection remained the same. Flying time, scouting for the disease, totalled 92 hours. Few "breakovers" occurred where isolation strips were absent; none where there were isolation strips. Thirty-nine positives were treated on the George Washington National Forest. Maryland tells of finding 85 probable oak wilt spots in Alleghany, Washington, and Garrett Counties. Not all of these have been confirmed. Concerning oak wilt in Pennsylvania, the following report was received: "Four hundred thirty-three oak wilt areas, including 378 previously undiscovered areas and 55 outbreaks of areas previously found, were treated in 1961. Ninety-six areas were new sites of single trees. This 433 figure shows little change from the 414 average for a 10-year period, although the figures this year include some Perry County areas that formerly were not counted, as they were used for research purposes. Weather conditions were favorable for flying, so the survey results reflect satisfactory performance for the season." Oak wilt in West Virginia was generally present throughout the State and its severity about the same as usual. A more detailed report will probably be ready about November 1.

CANKERS Miscellaneous cankers.--A high incidence of Hypoxylon canker (H. pruinatum) occurs on trembling aspen in Vermont. Areas of heavy infection were also observed in central and western New York, and in northern Pennsylvania. As noted previously, Cytospora canker on spruce is widespread, additional reports coming from Massachusetts and New York. Massachusetts also reports a Cytospora from pine. Strumella canker on oak is reported from western Maryland, which also reports Nectria canker of hardwoods as "plentiful in pole-sized stands on the Green Ridge State Forest." Nectria canker is generally scattered throughout the birch and maple stands of Rhode Island. Black knot (Dibotryon morbosum) is widely distributed on Prunus sp.

Cankers of unknown cause.--Two white pine basal cankers, of unknown cause were observed following the Northeastern Forest Pest Council summer meeting at Hamilton, N. Y. Both have previously been mentioned in the PEST REPORTER. One called the "DeRuyter canker," because of its location near DeRuyter, N. Y. occurs in a 20- to 30-year-old white pine plantation. Cankers are confined to the bases of trees and

extend upward from 18 inches to 2 feet above the ground line. Growth in the cambial region ceases on heavily cankered areas resulting in pinched, flattened, and flared tree butts. In some cases the trees are killed. In others, trees are so weakened they are subject to breakage. A high incidence of cankered trees occurred in the plantation observed. Your recorder had never seen cankers on white pine quite similar to the DeRuyter canker.

The other white pine canker of unknown cause was observed in the Tug Hill area near Lowville, N. Y. These cankers were at first mistaken for blister rust, hence its name "false blister rust canker." Attempts to isolate a pathogen have so far yielded only secondary fungi. To your observer these cankers closely resemble those resulting from the stings of mound building ants. As with ant-killed or injured trees, the cankers are usually within a foot or less of the tree base, are most frequently constricted, and oftentimes the grass cover must be removed to reveal the canker. Moreover, the cankered trees are young, being about 10 years old. Although ants are in the area, the distribution pattern of affected trees is different from the circular-kill area of trees killed by mound building ants, which has a distinct ant mound at its center. With ant-injured and killed trees, there is a gradient in that trees nearest the ant mound have been dead longer than those further away from the ant nest. Such a pattern does not hold for the "false blister rust cankered trees." These are scattered throughout the planting. The basal cankers occur on dead trees, on recently killed trees, and on trees with small yellowed leaves. Some are on healthy trees, but in such cases, the cankers do not girdle the tree but occur on one side of the tree base. Cankers on living trees oftentimes show callus formation. Trees in this planting had made good growth, although a high incidence of cankered trees are present.

ROTS Fomes annosus root rot.--The incidence of Fomes annosus in Vermont is believed to be low. The disease seems to be concentrated in the southeastern part of the State in the vicinity of Brattleboro. If so, then properly conducted stump treatments should be seriously considered to reduce F. annosus invasion in future thinning of coniferous stands elsewhere in the State, which are now free of the disease.

A Fomes annosus infection in a young Christmas tree planting in Connecticut was mentioned in the last REPORTER. F. annosus was plentiful in the area as shown by typical buttons on many small dead spruce, and its fruiting on stumps of pitch pine in the planted area. Near the edge of the planted area F. annosus was fruiting on dead standing pitch pine, on stumps of pitch pine, and on living and dead red cedars. Fruiting on pitch pine stumps and small spruce was not plentiful in the main Christmas tree planting, as the area was dry and sunbaked. What fruiting was found under these circumstances were of the pustule type and occurred in the more protected areas. This planting consisted of about 4 acres of white and Norway spruce. All told, about 11,000 to 11,500 seedlings had been planted in a 4- by 4-foot spacing. Stock used was 2-0 but had been heeled-in for about a year before the planting was established. Newly planted trees must have been infected soon after planting, and some died soon afterward. Basal sections of F. annosus-killed trees showed from six to nine annual rings but, for most, seven annual rings were evident. There were two or three distinct infection centers of kill in the young spruce, each about 50 feet or so in diameter. It is difficult to foretell what will happen. It is believed that F. annosus infections were especially severe in these trees because infection occurred soon after transplanting and as the trees were still in transplanting shock they readily succumbed to the inroads of the disease. Now that they have resumed growth and recovered from the shock of transplanting, it is believed that future kill will be slight and damage negligible until harvest. It will be interesting to observe future developments to ascertain whether the infection is stabilized, or whether additional damage will occur.

A report from Virginia tells of root rot in two loblolly pine plantations in Caroline County. One had been thinned 2 years, and the other was an unthinned plantation 35 years old. New F. annosus infections are reported from the Pawtucket

watershed in northeastern Rhode Island.

An unusual case of Fomes annosus fruiting on a small, living black oak was reported. The seedling oak was 7 to 8 years old and grew within a foot of an infected red pine stump on the Michaux State Forest near East Chambersburg, Pa. The red pine plantation was 44 years old with a planting density of 3 by 4 feet. It had been thinned during the winter of 1944-45. The resupinate Fomes annosus conk was on the basal stem of the black oak seedling and measured 1.25 inches in diameter.

Other rots.--During late summer and early fall many wood rotters attain their fruiting peaks. Some are annuals; others perennial. The perennial conks often make vigorous new growth which contrasts with the older conk growth, so they become even more noticeable. The following list mentions some of the more commonly observed conks reported since the last issue of the REPORTER.

Pleurotus sapidus is a fleshy-gilled fungus rather commonly observed fruiting on elm in widely scattered localities in the Northeast. It seemed more abundant than usual this year. Fomes applanatus is also common and widespread on various hosts, and occurs on dead and living, but declining, hosts -- especially maples. F. fomentarius is also common and widespread. It affects a variety of hosts, but mostly beech, birch, and maple. It is fairly common on living trees; very common on dead trees. Steccherinum septentrionale reached its fruiting peak during the latter part of August. It is widely scattered on sugar maples in all the New England States, and was commonly observed in New York and Pennsylvania. It was also observed on elm, which is not a common host for the fungus. Polyporus admirabilis, a rather uncommon fungus, was observed fruiting on apple at North Sutton, N. H. Another fungus observed on apple in Connecticut was Polyporus spumeus var. malicola, a fungus more frequently observed than the one mentioned above. A rather high incidence of Fomes pinicola was observed on dead Norway spruce in the Green Mountain National Forest. It was also collected from a red pine stump on the Groton State Forest in Vermont, a host not so common for this fungus. Polyporus cuticularis occasionally occurs on sugar maples, as observed in central New York this September. The moss-covered conks of Fomes connatus are very common and widely distributed on maples in the Northeast. This fall the anise-scented conks of Trametes suaveolens have been infrequently noted on willow. Fruiting height seems to be September. Fresh conks of Daedalea confragosa, a common fungus on a variety of hosts, are also in prime condition in September. It has been reported that the canker-producing fungus, Polyporus hispidus is fruiting rather commonly on oaks in the Haddam area of Connecticut. August-September is a good time to look for conks of this fungus. Polyporus sulphureus has been observed over wide areas, and fruiting of this fungus is common this year. Armillaria mellea fruiting is reported as plentiful this year. Other fungi in prime fruiting condition during the last of September, observed in the Rhinebeck area of New York, were Fomes everhartii on oak and F. fraxinophilus on ash.

DIEBACKS AND DECLINES The diebacks and declines have been notable among the tree trouble this year. Although always present to some degree, this year they have been reported more frequently and are causing more concern than usual. Massachusetts reports maple decline as more noticeable; also of finding a Pyrenochaete on maple in Ashby and Ashfield, an organism first associated with declining maples in Pennsylvania, and in the last issue of the REPORTER reported from New York. A New Hampshire report tells of mortality of roadside maples as being high this year, but few forest trees show similar symptoms. The same report speaks of declining red maples in the forest, and of isolating several fungi from necrotic areas on the stems. A report from Pennsylvania says maple dieback is particularly noticeable in roadside trees, and the 1961 legislature appropriated \$10,000. annually to the State University for study of this problem. The leaf scorch symptoms of the maple decline complex became more common during and after mid-July to mid-August dry period in the Northeast, and particularly so west of mid-New York and in Pennsylvania.

A report from eastern Massachusetts speaks of declining ash displaying symptoms similar to maples, although not so extensive. A yet undiagnosed canker of white ash has generally been observed in the area. In some cases the cankerous condition is accompanied by a dieback, but in other cases the foliage looks normal or only slightly thinner. A Rhode Island report tells of ash dieback being found throughout the State, some areas with 100 percent mortality. Declining ash is reported as being "found throughout the White Mountains." Late frost was severe on ash in some areas, and a red-brown slime flux seems more pronounced this year in New Hampshire. The flux is usually associated with insect holes of weakened trees. Ash dieback seems generally present in the northern tier of counties in Pennsylvania. A report from western Maryland speaks of unhealthy looking ash trees, on which the branch tips are dead.

Other tree declines reported include beech and hickory dieback or decline as common in central parts of New York. Three areas in Virginia have been noted where hickory mortality from an unknown cause has occurred. Sweetgum blight was reported from southern Maryland. Oak dieback occurs throughout Harford and Baltimore Counties of Maryland, and oak decline is reported as conspicuous in northern parts of the State. In West Virginia oak decline occurred in localized areas in Hardy County and was reported from Cabell County.

MISCELLANEOUS DISEASES White pine needle blight generally was not too serious this year, judging by the dearth of reports. It was common in southern Maine, as observed in August. A Virginia report mentions a "half-acre of littleleaf diseased shortleaf pine" in Fluvana County. X-disease of wild cherry (a virus) became evident during late summer in parts of Connecticut, New York, and Pennsylvania. The fungus parasite of the beech Nectria (Gonatorrhodiella highlei) is reported as lighter than usual in New Hampshire. Slime flux affecting birch, elm, and ash were among the reports received, as were an unspecified heartrot of locust in Maryland, also reports of a Phomopsis on ash and spruce, and a Phoma sp. from pine, from Massachusetts. In West Virginia Amelanchier witches' brooms, caused by Apiosporina collinsii, is abundant in Hampshire and Mineral Counties. Heavy defoliation of aspen, cause not specified, is reported from southeastern Rhode Island.

NONPARASITIC TROUBLES A report from Maine tells of kill of the 1961 growth of fir in the area north of Moosehead Lake, apparently from frost injury on July 13 or 20. A few belated reports of frost injury from the late May frost were also received. From western Maryland comes word that some of the mimosa trees did not flower, and of Cladrastis and oak frost injury in Massachusetts. A followup report of the cold-injured loblolly pine located on the Liberty Watershed in Carroll County, Maryland has been received. Damage seems not as extensive as first believed. Many of the browned loblollies were written off as dead, but now it is reported that "amazingly, at least 60 percent of the trees have greened up." Word from West Virginia says that the severe and extensive frost damage of early season was pretty well covered up by new foliage growth by mid-July. Other miscellaneous troubles reported include fill injury affecting oak, maple, birch, basswood and elm; planting too deeply; root girdling; and, finally, herbicide injury.

Injury from hurricane Esther was quite light, and involved but a small section of the northeastern states. Uprooted trees were relatively few, but broken branches, leaf- and twig-littered streets were conspicuous signs of the storm in the coastal regions of New England. In the New Haven area, many trees looked ragged from wind-tattered leaves following the gusty winds which occasionally reached 60 m.p.h. Leaves of branch tips that were not torn off, sometimes resembled leaf scorch from wind-whip bruising. However, severe gusty winds cause unnoticed root breakage which, in later years, may result in top dieback or root rot.

* * * * *

Recent Publication: 1961. Foreign Diseases of forest trees of the World, by Perley Spaulding. USDA, Agr. Handbook No. 197, 361 pp.